

NOAA Fisheries Readies to Implement New Open-Access Commercial Swordfish Regs

On Aug. 21, 2013, NOAA Fisheries published a final rule to implement Amendment 8 to the 2006 Consolidated Atlantic Highly Migratory Species (HMS) Fishery Management Plan.

This action establishes new and modified commercial fishing vessel permits for North Atlantic swordfish. It creates a new open-access "Swordfish General Commercial" permit, similar to the existing Atlantic tunas General Category permit, which enables a permitted vessel to retain and sell a limited amount of swordfish per trip.

Authorized gears under this new permit include rod and reel, handline, harpoon, green-stick, and bandit, which are the same gears authorized for the Atlantic tunas General Category permit. We expect this permit to be available to interested participants by late November 2013.

This action also modifies the existing HMS Charter/Headboat permit to allow commercial fishing with rod and reel and handline gear under open-access swordfish commercial retention limits, but only when a vessel is not conducting a for-hire fishing trip. This permit modification will be effective upon issuance of a 2014 HMS Charter/Headboat permit.

Four new swordfish management regions have been

established for these permits, with specific retention limits for each region. The regions are: Northwest Atlantic; Gulf of Mexico; US Caribbean; and a separate Florida Swordfish Management Area (see figure).

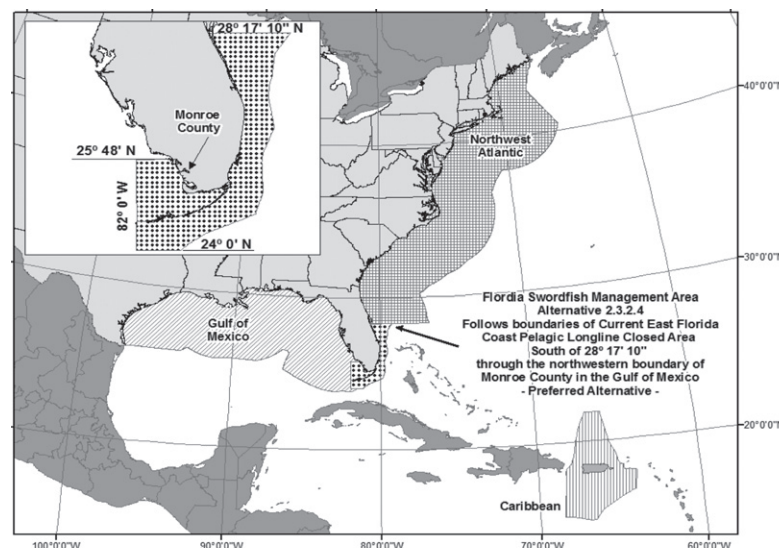
The Florida Swordfish Management Area was established because of its unique importance as a swordfish migratory corridor and because it provides juvenile swordfish habitat that is within close proximity to where we expect a large number of people to participate in the fishery.

Regional retention limits for the Swordfish General Commercial permit range from 0 to 6 swordfish per vessel per trip. The initial default regional swordfish retention limits established in the final rule are described in Table 1.

There are several other important management measures contained in Amendment 8. The new Swordfish General Commercial permit *cannot* be held by vessels that have been issued

a swordfish limited-access permit (Directed, Incidental, or Handgear) or by vessels issued an HMS Angling, HMS Charter/Headboat, or Commercial Caribbean Small Boat permit.

The new permit *can* be held by vessels issued an Atlantic tunas General Category permit or an Atlantic tunas Harpoon Category permit. Vessels



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Table 1: Initial default regional swordfish retention limits.

Swordfish Management Region	Retention Limit (# fish per vessel trip)
Northwest Atlantic	3
Gulf of Mexico	3
U.S. Caribbean	2
Florida Swordfish Management Area	0

After 22 Years, Surf Clam/Ocean Quahog Areas Reopened on Georges Bank

The Interstate Shellfish Sanitation Conference, a collaborative effort involving the shellfish industry, regulatory agencies, and academic researchers, has formally adopted a two-tiered testing approach for paralytic shellfish poisoning (PSP).

This approach involves having fishermen conduct initial onboard screening to detect if the PSP toxin is present and then having scientists at approved laboratories conduct further testing to ensure that toxin levels are within regulatory limits. The federal Food and Drug Administration (FDA) will prohibit the sale of clams in which toxin levels are deemed to be unsafe.

Thanks to this successful collaborative research

project, a real-time shellfish testing program has been developed that allows fishermen to target abundant stocks of Atlantic surf clams and ocean quahogs from a 6,381-square-mile portion of Georges Bank that has been closed to harvesting for 22 years.

NOAA supported the research that led to the FDA-approved testing program developed with clam harvesters, which determined that the naturally occurring toxin that causes PSP in humans has been consistently below harmful levels in these shellfish populations.

Continued real-time monitoring and testing

See *SHELLFISH REOPENING*, page 3

issued a Swordfish General Commercial permit can fish in registered HMS tournaments. Otherwise, no recreational fishing for billfish, sharks, or tunas is allowed under most circumstances.

Vessels issued the new Swordfish General Commercial permit, as well as HMS Charter/Headboat vessels on a non for-hire trip, must comply with the retention limit specified for the region in which the vessel is located.

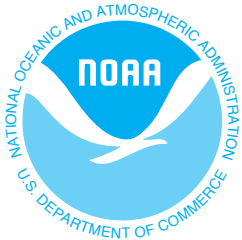
Swordfish landings under the permit may be sold only to permitted swordfish dealers. Swordfish landings will be deducted from the semi-annual directed swordfish quota. All other swordfish regulations, including minimum size limits, landing requirements, and gear definitions, will apply to the new permit.

Additional information regarding Amendment 8 is available on the HMS website at <www.nmfs.noaa.gov/sfa/hms/FMP/AM8.htm> or by calling Rick Pearson at (727) 824-5399.

The new permit will be issued for the 2014 fishing year beginning in late November 2013. To obtain a permit, visit <<https://hmspermits.noaa.gov>> or call (888) 872-8862. The cost of the new permit will be approximately \$20. We will send an e-mail notice to subscribers of "Atlantic HMS News" to inform you of the availability of the new permit. To sign up for "Atlantic HMS News," please visit <www.nmfs.noaa.gov/sfa/hms>.

THIS SUPPLEMENT PROVIDED BY NOAA FISHERIES SERVICE'S NORTHEAST REGIONAL OFFICE

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The NOAA FISHERIES NAVIGATOR

Northeast Cooperative Research Program Launches Longline Industry-Based Survey

The Northeast Fisheries Science Center's (NEFSC) Northeast Cooperative Research Program (NCRP) is teaming up with commercial fishermen to develop a pilot longline survey of rocky habitat in the western and central Gulf of Maine.

Some hard bottom habitats are not well-sampled by mobile trawl gear, and this survey could provide complementary information on species compositions and size distributions within these areas. This survey may yield additional important information for species like Atlantic halibut, wolffish, cusk, cod, and skates.

Two commercial vessels, the F/V Mary Elizabeth and the F/V Tenacious II, will work with NEFSC scientists to sample 45 stations during the spring and fall seasons. Sampling zones for the survey were identified from NEFSC trawl survey records where catches of species of interest, including cusk, wolffish, cod, white hake, dogfish, and thorny, winter, and barndoor skates, were high and the sampling area contained rocky habitat.

Sampling station coverage within each zone will be consistent with the coverage of the NEFSC bottom trawl survey in terms of stations per unit area. Sampling sites will be randomly selected so that stations will include both hard and soft bottom to generate habitat comparisons.

At each site, approximately one nautical mile of gear will be set, covering a distance roughly equivalent to that of a bottom trawl survey tow. Fishermen and scientists will work together closely to collect catch and biological data consistent with standard survey protocols.

Broadened scope

This survey also is designed to build upon previous and ongoing cooperative longline sampling programs that cover limited geographic areas, as a broader sampling effort is needed to support management efforts in the Northeast.

In particular, sampling gear and methods are being standardized with those used by the Eastern Gulf of Maine Sentinel Survey Fishery conducted by the Penobscot East Resource Center and the University of Maine's School of Marine Sciences.

This effort includes sampling for groundfish with longline and jigging gear during the summer months from the western edge of Penobscot Bay to the eastern border with Canada. The sentinel survey, piloted in 2010, aims to provide an annual index of abundance and information on habitat preference for species in this area, including cusk, white hake, Atlantic halibut, and

cod, as it is not well covered by commercial fisheries or other survey gear.

The NCRP industry-based survey will expand the geographic coverage of hard-bottom areas sampled with longline gear and provide additional sampling seasons and areas to increase the understanding of basic life history information such as age, growth, and maturity for some of the data-poor species.

Information from this survey and similar ones focused on data-poor stocks is critical to help inform various proactive conservation activities for species of concern like cusk, Atlantic halibut, thorny skate, and wolffish.

The timing of the industry-based survey will be coordinated with the NEFSC research vessel Henry B. Bigelow's survey schedule to provide complementary indices to those from the trawl survey to potentially improve stock assessments for some of the target species.

Pilot operations in 2013 and 2014 will help refine the survey methodology and inform the NEFSC as to the costs and efforts required if a long-term Gulf of Maine longline survey is implemented in the future.

For more information on this project, please e-mail Dr. John Hoey, cooperative research director, at <John.Hoey@noaa.gov>.

Northeast VMS Program Questions Answered

The Northeast VMS Team is available to help you comply with all of your VMS reporting requirements. If you have any concerns or need help figuring out the requirements, call us at (978) 281-9213 or send us an e-mail at <NMFS.OLE.NE@noaa.gov>.

In response to a number of questions raised by fishermen and to explain some upcoming changes to the program, we've put together the following Q&A.

Q: How can I get answers to my groundfish, scallop, or monkfish days-at-sea questions or concerns?

A: Management of the Days-at-Sea Program shifted from the Office of Law Enforcement to the Fisheries Data Services Division (FDSD) on Aug. 29. FDSD also is now managing the toll-free back-up message line for the Interactive Voice Response (IVR) call-in system.

For days-at-sea services, call (978) 281-9234.

For IVR back-up, call (888) 487-9994 or (978) 281-9227.

Q: It's costly for me to send declarations, wait for the VMS screen to warm up in very cold weather, or wait for my acknowledgement to come back to me. Is there a different way for me to send in my VMS activity declaration before I leave port?

A: We are working on a change to the IVR call-in system that will allow you to "confirm the use of your previous VMS code." While this feature is currently in the IVR call flow, it hasn't been functional. Bringing it online will benefit those fishermen who intend to make a trip using their vessel's last

activity declaration code sent to and received by NOAA Fisheries Service. We will make an announcement when this new feature becomes available.

Q: Should I expect another VMS software release for my vessel in the near future?

A: Yes. Your VMS vendor is expected to provide new software for your vessel by mid-November. If your vendor doesn't automatically download the new software to your VMS unit, you should load it when you receive it in the mail. We will send a NOAA Fisheries Northeast Bulletin to you announcing the new software when it becomes available and will let you know when to begin using it.

Q: What changes should I expect to see in the new VMS software?

A: Here's a brief summary of the upcoming changes. For details, please go to the VMS webpage at <www.nero.noaa.gov/nero/vms>.

- The monkfish declaration will include a selection for "Monkfish Research Set-Aside" (RSA) days-at-sea.

- The scallop declaration format will include some instructional text. Also, the RSA trip selection will require you to acknowledge your intent to harvest RSA quota and select an area from the general category or limited-access menu.

- The surf clam/ocean quahog declaration will include a selection for the reopened portion of the Georges Bank Paralytic Shellfish Poison (PSP) Area.

- The herring declaration will be expanded from one to four steps, including selection of a carrier trip, gear type, retention of mackerel/longfin squid, and whether herring RSA quota will be harvested.

- Mackerel and longfin squid declarations will be added in preparation for a new VMS requirement for these fisheries that we expect to implement in the near future.

- The "Declare Out of Fishery" declaration will include a definition in the "NAFO" selection to help users understand this unique selection.

- The "Reports" text will be changed to improve clarity and to standardize responses. Although the reports may look different, the information requested mostly will be the same as it was before with only a few changes.

For example, the vessel operator's permit number will be added as a new field in most forms. Fields requiring dates will ask you to enter the two-digit year to improve processing. The groundfish trip start hail will be required if you are fishing under a sector exemption or operations plan provision, and other selections for exemptions/provisions will be added.

A new RSA/Exempted Fishing Permit (EFP) Trip Start and Trip End Hail will allow VMS vessels that previously had to declare their RSA/EFP trips through IVR to send their declaration and hails entirely through VMS.

Finally, a new mackerel and longfin squid daily catch report and mackerel pre-landing notification will be added in anticipation of the new VMS requirement for these fisheries.

Q: My question wasn't answered here. Where can I find more information about the VMS Program?

A: If you have any questions about complying with the VMS Program, please call us at (978) 281-9213 and press "1" for VMS. You can also refer to our webpage at <www.nero.noaa.gov/nero/vms>.

Report Cold-Stunned Sea Turtle Strandings

Sea turtles forage in the waters of the Northeast from Maine to Virginia throughout the spring, summer, and fall. As water temperatures drop in the northern reaches of the region in the fall, turtles gradually move south, eventually leaving the area to over-winter in warmer waters off the southeastern US and beyond.

Sea turtles are cold-blooded reptiles, meaning their body temperatures are dictated by the surrounding water. When the water temperature drops beyond their acceptable range, they become “cold stunned,” a condition similar to hypothermia in people.

Each year in the Northeast, some sea turtles are cold-stunned when their southern migration is delayed and seasonal changes plunge water temperatures below what they can tolerate.

Cold-stunning causes decreased respiration, heart rate, and circulation. These turtles may stop feeding and eventually just float at the surface, moving only with wind or water currents. Under these circumstances, they are particularly susceptible to injuries from predators, boat strikes, stranding, and more. Low temperatures also suppress their immune systems, which can lead to infections such as pneumonia. Cold-stunning is usually fatal unless the turtle receives medical attention.

Here in the Northeast, strandings due to cold-stunning mainly occur in November and December. In 2012, 481 sea turtles stranded in the region, making it the biggest cold-stun season on record. Most of these strandings -- 413 turtles or 86% -- occurred in Massachusetts. In fact, the majority of cold-stun strandings typically occur in the commonwealth and most often on Cape Cod. The geography of the Cape is thought to act as a trap for southbound migratory sea turtles.

Only “hard-shelled” sea turtles are susceptible to cold stunning. These turtles have shells made of hard bony plates covered with keratin, which is the same protein that makes up human fingernails and hair.

There are three hard-shelled sea turtle species commonly found in the Northeast -- Kemp's ridley, loggerhead, and green. Although these species range in size from 100 pounds to over 300 pounds when they are fully grown, the smaller juveniles are more typically found in this region.

They forage in coastal areas on mollusks, including whelk, snails, and mussels, crustaceans (primarily crabs), horseshoe crabs, and, to a lesser degree, fish.

Leatherback sea turtles also are seasonal residents of the Northeast, but they are not susceptible to cold stunning because they are able to maintain their body temperature above that of the surrounding water.

Report strandings

All sea turtle species are protected under the Endangered Species Act of 1973, and there is a network of dedicated authorized response organizations and rehabilitation facilities available to provide necessary medical care for live stranded turtles and to collect vital information from dead stranded turtles.

The successful treatment and release of sea turtles is important for the recovery of these endangered and threatened species, and finding them depends on the reports we receive from concerned citizens.

That's why it is so important for fishermen and other members of the public to report all sightings of stranded sea turtles to the NOAA Marine Animal Hotline at (866) 755-6622.

When we receive a report of a cold-stunned sea turtle stranding, we alert local network members who respond as soon as possible. Live turtles are brought to a

rehabilitation facility and warmed slowly, which is vital to avoid shocking the turtle's system and causing further damage.

The turtle also is evaluated for infection, frostbite, wounds, and other issues and provided with medical treatment. Cold-stunned turtles often remain in the rehabilitation facility for several months before being released back into the ocean.

A listing of turtle response organizations may be found online at www.nero.noaa.gov/prot_res/stranding/stssn.html. For more information, please call Kate Sampson, Protected Resources Division, at (978) 281-9470 or e-mail her at kate.sampson@noaa.gov.

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Shellfish reopening

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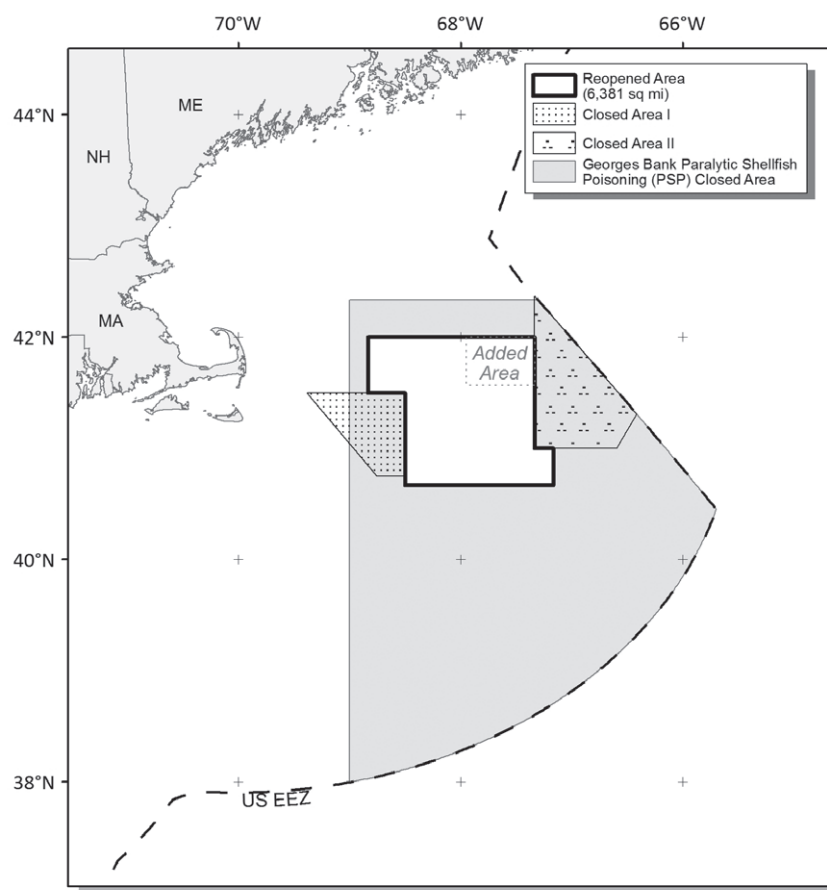
will be used to ensure that the harvested shellfish are safe to eat now and as harvesting continues.

“We are pleased that our research, authorized under the Harmful Algal Bloom and Hypoxia Research and Control Act, found improved bloom forecasting and has led to development of a testing protocol that allows clam fishing from Georges Bank,” said Robert Magnien, director of NOAA's Center for Sponsored Coastal Ocean Research. “Partnerships among state and federal agencies, fishermen, and researchers are critical to developing more effective tools to protect public health and minimize economic effects on the fishing industry.”

Added NOAA Fisheries Service Northeast Regional Administrator John Bullard, “We know that opening this area will provide significant opportunity to ocean quahog and surf clam fishermen. This may also relieve fishing pressure on the southern component of the Atlantic surf clam stock off the Mid-Atlantic coast, which has declined over the last two decades.”

Together, these two shellfish resources support a multimillion-dollar fishery along the East Coast. Surf clams are the most important commercial clam species harvested in the US. There are approximately 600 federal ocean quahog and surf clam permit holders, 47 of whom were active in the fishery last year.

In 1990, the FDA recommended closing portions of Georges Bank after clams were found with PSP toxin levels that exceeded regulatory limits. The toxin is produced by *Alexandrium fundyense*, a single-celled organism that, in high concentrations, can form harmful algal blooms. The



Surf clams are the most important commercial clam species harvested in the US.

clams concentrate the toxin in their tissues, which can cause illness or even death if consumed by people.

“Toxin levels in shellfish on Georges Bank have been very low over the last few years,” said Stacey DeGrasse, PhD, seafood research coordinator in the FDA's Office of Regulatory Science. “We are confident that this new testing protocol will serve to protect public health should toxin levels rise again in the future. We intend to continue to work closely with NOAA to ensure that the shellfish from this region are harvested safely.”

For more information, call Jason Berthiaume, Sustainable Fisheries Division, at (978) 281-9177 or e-mail him at Jason.Berthiaume@noaa.gov.

Monitoring the Ecological Effectiveness of the Penobscot River Restoration Project

NOAA Fisheries Service has been a partner in the Penobscot River Restoration Project (PRRP) in Maine to strategically remove three significant fish migration barriers in order to restore 11 diadromous fish species that are native to the river without disrupting hydropower generation. PRRP aims to improve the Penobscot River's native sea-run fisheries and achieve a balance between these fisheries and hydropower.

Diadromous fish are migratory fish such as river herring, American shad, Atlantic salmon, and American eel that require freshwater environments for part of their lifecycle and the ocean for the rest. But structural barriers such as hydropower dams can restrict or halt these migrations, impacting the health and resiliency of these fish populations.

After years of planning and coordination, efforts to restore these species began in 2012 with the removal of the Great Works Dam, the second dam upstream from the ocean near Old Town, ME.

The Veazie Dam, the lowermost on the river, will be removed this summer. Fish passages will be enabled at the Howland Dam, an additional critical step toward restoring these species. This project is regionally and nationally significant because of its ecosystem-wide approach to reconnecting upriver habitat to the Gulf of Maine.

The PRRP has been a NOAA Fisheries priority for many years, with the agency investing close to \$20 million in the project and related activities.

From the beginning, NOAA and its partners have recognized the importance of documenting the effectiveness of a project from which we expect ecosystem-scale benefits. We have demonstrated our commitment to monitoring the project's effectiveness by investing approximately \$2 million to date in nine long-term studies on the Penobscot that have collected at least two years of pre-dam removal data. We are hoping that the results of the barrier removals will be apparent when compared to the baseline data collected in these studies.

Six of the nine studies are focused on migratory fish response, which is a level of fisheries monitoring not matched at a dam removal site anywhere else in the country. Two of the other studies focus on the physical and chemical responses of the ecosystem and another evaluates changes to wetland communities along the river.

Cooperating investigators are from the University of Maine, University of Southern Maine, Gulf of Maine Research Institute (GMRI), US Geological Survey, Penobscot Indian Nation, and a local consultant. Funding partners include the Penobscot River Restoration Trust and the Nature Conservancy.

Food web impacts

Two studies of particular interest demonstrate the monitoring program's multidisciplinary approach and the potential for revealing how restoration of watersheds and migratory fish stocks may improve groundfish fisheries.

One is titled "You are What You Eat: Using Stable Isotopes to Assess Freshwater and Marine Food Web Change in Response to Dam Removal." A primary objective of the



PRRP is to improve migratory fish passage between the upper reaches of the river and the coastal marine environment. Increasing the connection between river and marine habitats is expected to positively impact the organisms that reside in these environments primarily by providing a consistent food source.

In the freshwater system, spawning migratory fishes such as river herring should bring marine-derived nutrients to lakes and rivers and provide forage for large freshwater predators like smallmouth bass. In the marine system, it is expected that young migratory fishes migrating out of freshwater nursery habitats will be consumed by coastal marine predators like cod and mackerel.

To quantify links between the freshwater and marine environment, researchers from the University of Southern Maine and GMRI are using stable isotopes to estimate the movement of marine and freshwater materials via the migratory fishes across ecosystems before and after the dam removals.

Stable isotope studies are used for studying the flow of nutrients through organisms. Essentially, "you are what you eat," so isotope signatures of fish reflect the isotope values of their food, which, in turn, can be used to gain an understanding of food web position and habitat associations, marine vs. freshwater in this case.

Pre-dam removal data collected from 2009 through 2011 show a strong separation between the freshwater and marine food webs, which is expected in systems that are disconnected by dams. However, preliminary results indicate some level of connectedness even before dam removal.

We believe stable isotopes provide reliable and cost effective indicators of food web change in response to dam removal. The first post-removal investigations of this study will be conducted after the Veazie Dam is removed and full connectivity with the marine environment is restored.

Water quality

In the other study, which is titled "Understanding Lower-river Water Quality and Benthic Macroinvertebrate Communities," the Penobscot

Indian Nation Water Resources Program (PIN WRP) is examining select sites in the lower Penobscot River to determine if and how water quality and benthic macroinvertebrate community composition will change with barrier removal.

Benthic macroinvertebrates are bottom-dwelling organisms that are often immature forms of insects such as mayflies and stoneflies. These important components of aquatic food webs are sensitive to water quality conditions. Water quality, which strongly affects ecosystem health, can be evaluated directly by measuring specific water parameters such as dissolved oxygen or it can be inferred by studying the benthic macroinvertebrate communities that are subjected to variations in water quality throughout the year.

In 2009 and 2010, PIN WRP collected aquatic benthic macroinvertebrates from seven locations associated within the impoundment (closed-in) and tailwater areas of the Great Works and Veazie Dams, as well as the tailwater area of the Milford Dam, the third dam on the river. The data collected will be used to assess changes in the aquatic life community structure attributable to dam removal and to determine if water quality criteria established by the state are being attained.

Also in 2009 and 2010, PIN WRP collected water samples and measurements from 10 sites within the Great Works and Veazie Dam project areas to further characterize water quality conditions before dam removal. Water quality was evaluated for physical characteristics such as dissolved oxygen, temperature, clarity, nutrients, and other various pollution indicators. Stations were sampled late-July through late-October in 2009 and mid-June through late-October in 2010 at one-to-two-week intervals. Water temperature also was evaluated at 15 additional locations associated with the Great Works, Veazie, and Howland Dam impounded areas and at select free-flowing reaches upstream.

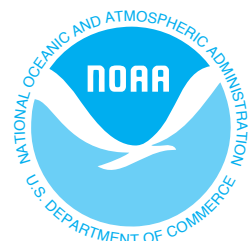
In general, the pre-dam removal benthic macroinvertebrate and water quality data collected in the lower river show the results that are expected from a large impounded river with a history of industrial use. Acceptable water quality standards are being attained at all the sampling locations.

While a variety of benthic insects were found in the impounded areas, the free-flowing areas generally had more insects and more insect diversity. The continuous temperature data showed that the lower Penobscot River gets quite warm and sometimes exceeds critical temperature thresholds for salmon.

Post-removal monitoring of benthic macroinvertebrates and water quality is beginning in the area of the former Great Works Dam this summer.

As demonstrated by the two example studies described here, long-term monitoring of ecosystem response to the PRRP is important for understanding the project's success. It also may help us document how restoring migratory fish can benefit the marine and freshwater ecosystems they inhabit, including providing a potentially important food source for valuable offshore commercial fish species.

For more information, call Mathias Collins, NOAA Restoration Center, at (978) 281-9142 or e-mail him at <Mathias.Collins@noaa.gov>.



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